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transversely triangular, scarcely sinuous behind and uniformly high, with its ends scarcely curved backwards to its posterior facettes, which are narrow, little prominent above and separated from the dentigerous area by a contraction; the shaft is laminar, expanded obliquely downwards and forwards. The teeth on the body are nearly uniform, moderate, and paved, and on the crest of the shaft obtusely cylindro-conic. The upper pharyngeal bones are high, curved in front, on which is a tessellated pavement and which is nearly rectangular to the inferior surface, which is paved towards the inner side with moderate and towards the outer with minute teeth.

The gill rakers on the outer surface of the first branchial arch are short compressed, parallel with the arch, bi- or multidentate; the others are oblique and more or less compressed at right angle to the arches.

Type Pimelometopon pulcher *Gill.*

This genus is very closely related to *Trochocopus* (Günther), but differs in the possession of a greater number of scales and the form of the head. It is also solely represented by species found along the western coasts of America and the appertaining islands, while *Trochocopus* is a peculiar African type, so far as yet known.

Of the two known species of this genus, one—the type—was originally described as a *Labrus* by Ayres in San Francisco; the other was first made known by Jenyns under the generic name *Cossyphus* and was afterwards, by Valenciennes, described as a new species of *Labrus.* Dr. Günther subsequently referred the Californian species to his genus *Semicossyphus* and the species of Jenyns and Valenciennes to *Trochocopus;* he was acquainted with neither through autopsy. Finally, the writer, following Günther and unacquainted with either *Semicossyphus* or *Trochocopus*, retained the Californian species in the former genus.

Pimelomotopon belongs to the subfamily of Chœropinæ as understood by me. It is proper to here remark that, by an evident inadvertence, the subfamily Pseudolabriformes of Bleeker was formerly[*] enumerated among those considered valid by myself, instead of among those requiring revision.

There are two known species of the genus *Pimelometopon:*

PIMELOMETOPON PULCHER Gill = Labrus pulcher *Ayres* = Semicossyphus pulcher *Günther, Gill.*

California.

PIMELOMETOPON DARWINII Gill = Cossyphus Darwinii *Jenyns* = Labrus aper *Val.*

Gallopagos Islands.

N. B. In anticipation of a special paper, I may here state that the *Sebastes ! helvomaculatus* of Ayres is the true *Sebastes rosaceus* of Girard, (*Sebastomus*[†] *rosaceus* Gill,) widely different from the *Sebastodes ! rosaceus* of Ayres. The latter may be named *Sebastosomus pinniger.*

Note on the Nomenclature of Genera and Species of the Family ECHENEIDOIDÆ.

BY THEODORE GILL.

In order to correct the nomenclature of two of the genera of the family Echeneidoidæ, the following paper is submitted. I also embrace the opportunity of restoring to proper rank, as the true names of peculiar species, two which have been connected with forms to which they do not truly belong.

M. Auguste Duméril, in a "Prodrome" of a projected Monograph of the family, (Comptes Rendus, tome 47, 1858, pp. 374—378,) has proposed to distribute the species among two groups, one typified by *Echeneis naucrates*, and named *Naucrates*, and the other, represented by *E. remora* and called *Remores.* Elevating these types with others to independent generic rank, I have restricted *Echeneis* to the genus typified by *E. naucrates* and called that one typified by *E. remora*, *Remora*, which name Dr. Bleeker has since accepted. On examining the works of Linnæus and Artedi, I find, however, that *E. remora* was the only species referred to that genus by Linnæus in the earlier editions of the Systema Naturæ, and by Artedi; and that in the later editions, Linnæus placed that species at the head of the genus. The *E. remora* must consequently be regarded as the type of the genus, and a new name (*Leptecheneis*) conferred on *E. naucrates*. The genera of Echeneidoidæ will then be known by the following names:

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[*] Proc. A. N. S. 1863, p. 221.

[†] Sebastosomus, n. g. Type *Sebastosomus melanops* = Sebastes melanops *Girard.*

REMORÆ.

ECHENEIS REMORA L.

1. Echeneis *L.*, *Art.* Type, Echeneis remora *L.*
2. Remoropsis *Gill.* Type, Echeneis brachyptera *Lowe.*
3. Rhombochirus *Gill.* Type, Echeneis osteochir *Cuv.*
4. Remilegia *Gill.* Type, Echeneis australis *Bennet* = Echeneis scutata *Günther.*

LEPTECHENEIDES.

5. Leptecheneis *Gill.* Type, Echeneis neucrates *L.*
6. Phtheirichthys *Gill.* Type Echeneis lineatus *Menzies.*

In a Synopsis given in the Proceedings of the Academy of Natural Sciences of Philada., for April, 1862, (p. 239,) an analytical table is given, in which the genera are distributed as follows:

Echeneides (Echeneis = Leptecheneis, Phtheirichthys.)
Remoræ (Remora = Echeneis, Remilegia.)

Subsequently, (op. cit., 1863, p. 88,) the genera *Remoropsis* and *Rhombochirus* were added.

The genus *Remilegia* is known to me chiefly through the excellent figure accompanying Günther's valuable account of the family in the "Annals and Magazine of Natural History," (vol. v. 1860, pp. 386—402.) On the other hand, I have enjoyed the opportunity of examining two types,—*Rhombochirus* and *Phtheirichthys*,—not seen by that gentleman.

While fully appreciating the great service rendered to science by Dr. Günther in reducing the synonymy of the present family, and in many respects agreeing with him in his views regarding the limits of the species and their synonymy, I am compelled to differ from him, especially regarding the nomenclature of the species called by him *Echeneis Holbrookii* Gthr., and *E. scutata* Gthr., believing that both had long previously received names known, indeed, to him, but referred to species which they did not really represent.

Echeneis Holbrooki of Günther, Cat., should have been called *Echeneis albicauda*, as it is the *Echeneis albicauda* of Mitchill. Mitchill's name is, indeed, included, with special emphasis, in the synonymy of Günther's *Echeneis naucrates* (*Leptecheneis neucrates*), but the following juxtaposition of *all essential characters* given by both authors will show the incorrectness of this view:

"*E. naucrates.*"	"*E. Holbrookii.*"	"*E. albicauda.*"
Disk "(21) 22—25 (26)"	Disk "21."	Disk "21."
"The length of the disk $4\frac{1}{2}$—4 $\frac{3}{5}$ in the total or twice the width of the body between the pectorals." Gthr., ii. p. 384.	"The length of the disk is 3 $\frac{4}{5}$ in the total, or twice the width of the body between the pectorals." Gthr., ii. 383.	"Length twenty inches and a half; breadth almost three." Mitchill.
Width to length (= 1: $4\frac{1}{2}$ — 4 $\frac{3}{5}$ × 2) = 1: 9 — 8 $\frac{1}{5}$.	Length to width = 1 : (3 $\frac{4}{5}$ × 2) 7 $\frac{3}{5}$.	Length to width = 1 : ($20\frac{1}{2}$ ÷ 3 =) 6 $\frac{4}{5}$.

As Mitchill's notice of *Echeneis albicauda* gives a relative width, to the body even greater than that attributed by Günther to his *E. Holbrookii*, and far greater than that assigned by him to *E. naucrates*, and as *Echeneis albicauda* has "twenty-one bars across the shield," also in *E. Holbrookii* "the number of laminæ has been constantly found to be twenty-one—a number of very rare occurrence in *E. naucrates*,"—the reasons for Günther's insistence on the reference of Mitchill's name to *E. naucrates* and bestowal of a new one on his species are not evident. I cannot appreciate the force of his remark that Mitchill's "is an imaginary species," and that the name, "as is quite clear, was originally not intended for the fish afterwards described by Holbrook as *E. lineata*, but merely for specimens of *E. naucrates* with a white margin to the fins."

Long before the communications of Mitchill, and as early as the year 1788, a species of the genus *Leptecheneis* was made known by Zuiew in a special article (*Echeneidis* nova species) in the Nova Acta Academiæ Scientiarum Imperialis Petropolitanæ (iv. 279—283, tab. VI.) The species was well and elaborately described and illustrated, and was especially distinguished from *E. naucrates* by the much longer lower jaw and the longer disk, which nevertheless had a smaller number of laminæ (20.) The species thus introduced was named *Echeneis neucratoides;* its habitat was unknown.

While it is thus seen that two forms with a comparatively small number of laminæ had been early made known, and that the proportions assigned to one agreed nearly with those attributed to *E. Holbrookii* by Günther, it is necessary to add that none of the specimens examined by myself had so long a disk or so wide a body as the individuals noticed by Günther, although I have had the opportunity of examining specimens of the genus exhibiting every gradation between *eighteen* and twenty-five laminæ. I shall not, however, offer any decided opinion at present, but close with the assertion that DeKay's and Holbrook's specimens had not the proportions of the *E. Holbrookii* of the Acanthopterygian Fishes, but agreed with those seen by myself. As Günther's *E. Holbrookii* was *entirely* founded on the *E. lineata* of Holbrook in the first instance, that name must of course be considered as a synonym.

The *Echeneis scutata* of Günther had first received a name from F. D. Bennett in his "Narrative of a Whaling Voyage round the Globe, from the year 1833 to 1836."* In that work, Bennett gave a very recognizable description of it under the name *Echeneis australis.*† Bennett's name has been referred by Günther to the synonymy of *Leptecheneis neucrates*, like *E. albicauda*, but, as will be shown, erroneously. Bennett has stated that the *E. australis* exceeds the *E. remora*—especially recognized by Günther as that species—in size. "One individual captured, and which was by no means the largest one observed, measured one foot five inches in length, *and was proportionally broad.*" This statement at once would render the identity of the species with *E. naucrates* extremely improbable, as the latter species has an incomparably more slender body. The further statement that the dorsal has "21" rays, and the anal "24," completes the evidence of its difference from *L. neucrates*, that species having the formula D. "(21) 22—25 (26) 33—41. A 32—38," (Günther). As Bennett's formula ("D. 21. A. 24") specially agrees with Günther's formula of *E. scutata*—("D. 27 | 22. A. 21—23"), and, as of three examples of Bennett's species, "one only had 24 striæ on the buckler, the other two had 26," thus also specifically agreeing with *E. scutata* ("D. 27 | "), the identity of the two nominal species is almost certain, and Bennett's name (*Remilegia australis,*) as the prior one, must be accepted.

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* Op. cit., vol. ii. 1840, p. 273.

† The name of *Echeneis australis* was first introduced into Science by Bennett, as that of a new species. A *Leptecheneis*—probably *L. neucrates*—had been previously figured in Griffith's Cuvier under the English name of "Australian remora," but no attempt at identification of the two was made by Bennett, and the species belong to widely distinct genera.